



# Where do dogs come from?

October 16, 2008



## Canine origins the subject in first talk of a new LANL-sponsored lecture series

LOS ALAMOS, New Mexico, October 16, 2008— Thomas Leitner of Los Alamos National Laboratory uses the DNA of many individual dogs to trace the origins of man's best friend. His talk will explore how it can be possible that a Great Dane and a Chihuahua are members of the same dog species and how could they have been bred in little more than ten thousand years from the same Asian wolves.

Leitner's talk is from 7-8 p.m. Tuesday, Oct 21, 2008 at the Santa Fe Complex, 624 Agua Fria Street, in the new Santa Fe Railyard. This is the first in a new series of talks that will focus on the emerging scientific field of quantitative biology.

The talk is free and open to the public.

The next lecture in the series will be held on Nov 18, 2008 and will feature Ruy Ribeiro of Los Alamos National Laboratory discussing the design of HIV vaccines, in which LANL has played a leading role.

In the third lecture, Professor Pablo Iglesias of Johns Hopkins University's Department of Electrical and Computer Engineering will discuss how simple one-cell bacteria, such as *E. coli*, sense their environments and respond to them, often much better than human-engineered systems can. That lecture will be held on January 20, 2009.

A fourth lecture by LANL scientist S. Gnanakaran scheduled for February 17, 2009 will focus on how protein folding is measured and predicted and how a particular type of misfolding contributes to over 20 debilitating ailments, most notably Alzheimer's disease.

The lectures are intended to feature broadly accessible introductions to various aspects of quantitative biology, in-depth discussions of specific problems, and lively question and answer sessions. More information about the content and location of future public lectures is available at <http://q-bio.org/public-lectures> online. All lectures are free and open to the public.

The lecture series is sponsored by the Center for Nonlinear Studies (CNLS), one of the centers for research excellence at Los Alamos National Laboratory. CNLS has been at the forefront of exciting research for more than 25 years and has served as an incubator of new scientific ideas for the Laboratory and for the nation. The Center has lead the Laboratory's expansion into the scientific field of quantitative biology, or "q-bio" as it is becoming known.

"The traditional mission of the CNLS is the use of sophisticated mathematical, physical, and computational methods to address problems emerging in a variety of complex systems, from turbulent flows and novel new materials to complex networks involving energy and information transmission and even social networks," said Robert Ecke, CNLS Director. "We see the opportunity that our accumulated expertise can provide in the new q-bio field, and are acting on it."

CNLS now supports a vibrant q-bio research program, anchored by more than two dozen researchers in fields spanning genetic engineering, vaccine design, protein science, immunology, cancer research, and bioenergy, and it has been a principal sponsor of the Q-Bio Conference, a premier international scientific event, which attracts over two hundred researchers from every corner of the world to Santa Fe every August.

"Now is the time to build upon these successes," said Ilya Nemenman, a scientist in LANL's Computer, Computation, and Statistical Sciences Division and one of the leaders of the q-bio efforts at the Laboratory. "We want to grow the field even further and to develop the technology that will help the country face its biological challenges. But thinking locally, we also want to contribute back to the community, where most of us live."

To accomplish this task, CNLS is starting this series of q-bio public lectures, designed to introduce the Santa Fe community to the breakthroughs in biology that have resulted from the use of new, quantitative techniques, many developed right here in northern New Mexico. Internationally recognized researchers from LANL, New Mexico, and across the country, will be deliver the hour-long lectures, generally held on the third Tuesday of every month at 7 p.m.

**Los Alamos National Laboratory**

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